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Effect Of Planting Time And Pre-Planting Treatment Of Large Size Bulb With G.A. On The Growth And Flowering Of Tuberose (*Polianthes Tuberosa* L.)

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ABSTRACT

Field experiments were conducted at research farm of Janta (PG) College, Bakewar, Etawah (U.P.) in year1999 & 2000. The large bulb (above 3 cm. in dia.) treated with GA (400 ppm) transplanted on March 15th produced maximum number of flowers/ spikes than the bulbs transplanted on May 15th and July 15th. However the maximum weight of clump, bulbs and bulblets were observed of March transplanted in comparison to bulb transplanted on May and July.

Key words : Tuberose, bulb size, GA & planting time

INTRODUCTION

The flowers are used in preparation of garlands, floral ornaments, bouquets etc. The long floral spikes are excellent material for table decoration. Its flower are in great demand in metropolitan cities, these flowers produce essential oil between 0.08 and 0.10% by solvent extraction method. The absolute obtained from concrete (petroleum ether extract) is perhaps, one of the most expensive natural flower oil costing 4000 to 8000 U.S. dollar per Kg. (Sharga 1999). *Polianthes tuberosa* is a member of family Amaryllidaceae. It can be cultivated both in tropical and sub tropical condition. Although it is native to Mexico. Yet it is cultivated in India. All flower lovers like tuberose due to its luxuriant vegetative growth, pretty and fragrant spikes, which have long vase life and transportability.

Many factors, like climatic conditions, fertility level of soil, size of bulbs and planting time, affect the yield and quality of flowers. In which planting time is very important in tuberose production. It required high humidity and moderate temperature around 30°C for its luxuriant vegetative growth and gradually ceases to grow on declining these two vital factors, especially in North Indian Plains from December onwards. Temperature above 40°C reduce the spike length and quality of flowers. Likewise, very low temperature and frost also damages the plants and flowers (Sharga, 1999). Due to varied agro climatic conditions prevailing in India tuberose is planted at different dates in different parts of the country. It is planted in February and March in the plains and in April and May in the hills (Sadhu and Bose, 1973). Sharga (1999) suggests planting of tuberose in March/April under sub tropical climate. On the other hand Singh et.al. (1999) suggested June planting under Meerut (U.P.) conditions. Under conditions of Akola (Maharastra) July planting proved best (Alurwar, 1980) but Khobragade et. al (1997) suggested 10th April as best date under their conditions. Nambisan and Krishanan (1983) recommended planting of tuberose bulbs in the month of July to August in the southern part of India for obtaining maximum yield of flowers.

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MATERIALS & METHODS

The present investigation was carried out at Research farm of Janta (P.G.) College Bakewar, Etawah, U.P., (India) during the years 1999-2000. The experiment was designed in split plot design replicated thrice. The large bulb (3 cm. diameter) of 'cv. Double' grouped and these bulbs were treated with G.A. 400 ppm 24 hours before transplanting. The bulbs transplanted in 15 March, 15 May & 15 July both year. A control plot was also maintained in March sown. The regular irrigation and hoeing was done.

The data recorded number of days required for flowering, number of flower per spike, weight of flower per spike, yield and number of bulb and bulblets per clump.

RESULT AND DISCUSSIONS

The data present in the table-1 showed that the maximum number of days required per flowering in May plantation and minimum number of days required for flowering in March plantation as compared to July plantation. Number of flower per spike and weight of flower per spike also gave the significant difference in March plantation against May & July. March transplanted bulb showed maximum weight of flower per plant 91.71 gm. as compared to May and July plantation 87.70 & 86.02 gm. per plant. The number of bulb & bulb lets were found significantly higher in